

# **Rockland - Greenland Mass**

**AND OTHER TOWNS IN  
ROCKLAND, GREENLAND, AND BOHEMIA TOWNSHIPS  
IN ONTONAGON COUNTY, MICHIGAN**

**BY KNOX JAMISON**





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A HISTORY OF  
*Rockland - Greenland*  
*Mass*

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IN ONTONAGON COUNTY, MICHIGAN

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The front cover was designed and drawn by Mrs. Knox Jamison.

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# *Rockland-Greenland-Mass*

The history of the towns of Rockland, Greenland, and Mass are directly related to the mining industry which brought the first white men to this part of Michigan. Some of the early mining "locations" eventually became permanent villages. Most of the attempts at mining proved futile, but where a mine was successful over a period of years the town usually survived even after the mining had ceased. For every successful mining venture there were dozens of failures. This account will tell of the failures as well as the permanent villages.

The first attempt to mine in this area was along the banks of the Ontonagon River in the vicinity of the river forks and site of the famous copper boulder. In 1771 the Englishman, Alexander Henry, with a small crew sank a forty-foot shaft through the clay to the sandstone, but nothing of value was found. Later in the early 1840's explorations were made along the Ontonagon, Flintsteel and Firesteel rivers as well as farther west along the Iron River and in the Porcupine Mountains. This early work was hit and miss prospecting mostly where the rock was exposed in rivers or outcropping. In fact, not until the year 1842 did the western part of the Upper Peninsula of Michigan become part of the public domain, by the treaty of LaPointe with the Indians of this area. After that date mining activity moved at a much faster pace. Eldred's removal of the copper boulder from the Ontonagon River, and its exhibition in Detroit and Washington gave the area great publicity.

An account of this early activity was narrated by Robert Hybels who says, "Excitement mounted during 1843 and 1844 and in 1845 burst all bounds, verging on frenzy. This also continued into 1846 but by the end of that year the main rush was over."

Previous to Alexander Henry's attempt at mining the existence of copper in the

Ontonagon area was already known. The French missionaries including René Mesnard, Claude Allouez, and Claude Dablon had reported seeing copper in the possession of Indians. As early as 1670 Dablon wrote of the existence of copper in the Nantonagon (Ontonagon) River. He had been presented with a one hundred pound chunk cut from the famous boulder.

Other men had seen and reported copper being in the area but the first real attempt to study the geological formations was by Henry Schoolcraft who published his views regarding copper deposits in the Lake Superior area in 1821. Probably the most scientific report was by Dr. Douglas Houghton ten years later given to the U. S. Secretary of War and locating the trap rock formation in the Upper Peninsula of Michigan. He later contributed valuable and detailed information as State Geologist. Mr. William Burt in his capacity as U. S. Deputy Surveyor made a very notable contribution to the geological data on the General Land Office maps. Two other gentlemen should be mentioned as contributing a tremendous amount of technical geological information about the copper mining area of Michigan. Their report to Congress in 1851 was the most complete and authoritative data on the Lake Superior district to date. These men were geologists J. W. Foster and J. D. Whitney. Their report is still a classic in the thorough and complete manner of their field study and narration. Other able men contributed also, notably Jackson, Shepard, Hubbard, Dana, Marcow, Hall, Hunt, Pumpelly, and Irving.

Organized mining was first attempted through permits or leases granted by the War Department's mineral agency from 1844 to 1846. Nearly two thousand such permits were given before it was decided to sell the mineral lands outright. As it took considerable capital to develop a mine, individuals receiving

these permits later assigned them to organized mining companies. These mining companies first operated under special charters granted by the Michigan Legislature and after 1853 by Articles of Incorporation under the general mining laws; all mineral lands then being purchased directly from the State, or from individuals.

This is briefly the beginning of the mining in this part of Michigan. But the historian must go much farther back in the history of the Rockland-Greenland-Mass area than this. Sometime previous to the year 2000 B.C., give or take a thousand years, a man stood atop a high hill located near a big river flowing into Lake Superior. He looked back at the deep valley formed by the river and toward the rugged landscape of deep gorges and high hills in every direction. His trip had been difficult, coming up the river from the large lake, but he was now at his destination. This man was the ancient miner who had returned to the scene of his mining operation. Several summers he had worked here with his crude tools consisting of stone hammers and copper implements. The hundreds of shallow pits dotting the ridge he stood on was evidence of his and his fellowmen's work. They had extracted the red metal from the rock as their fathers had done before them using the only method they knew, fire, water, and stone hammers. The copper was transported to the river in the fall for their long journey south for their work was only seasonal and they would leave nothing of a permanent nature except the pits they had dug.

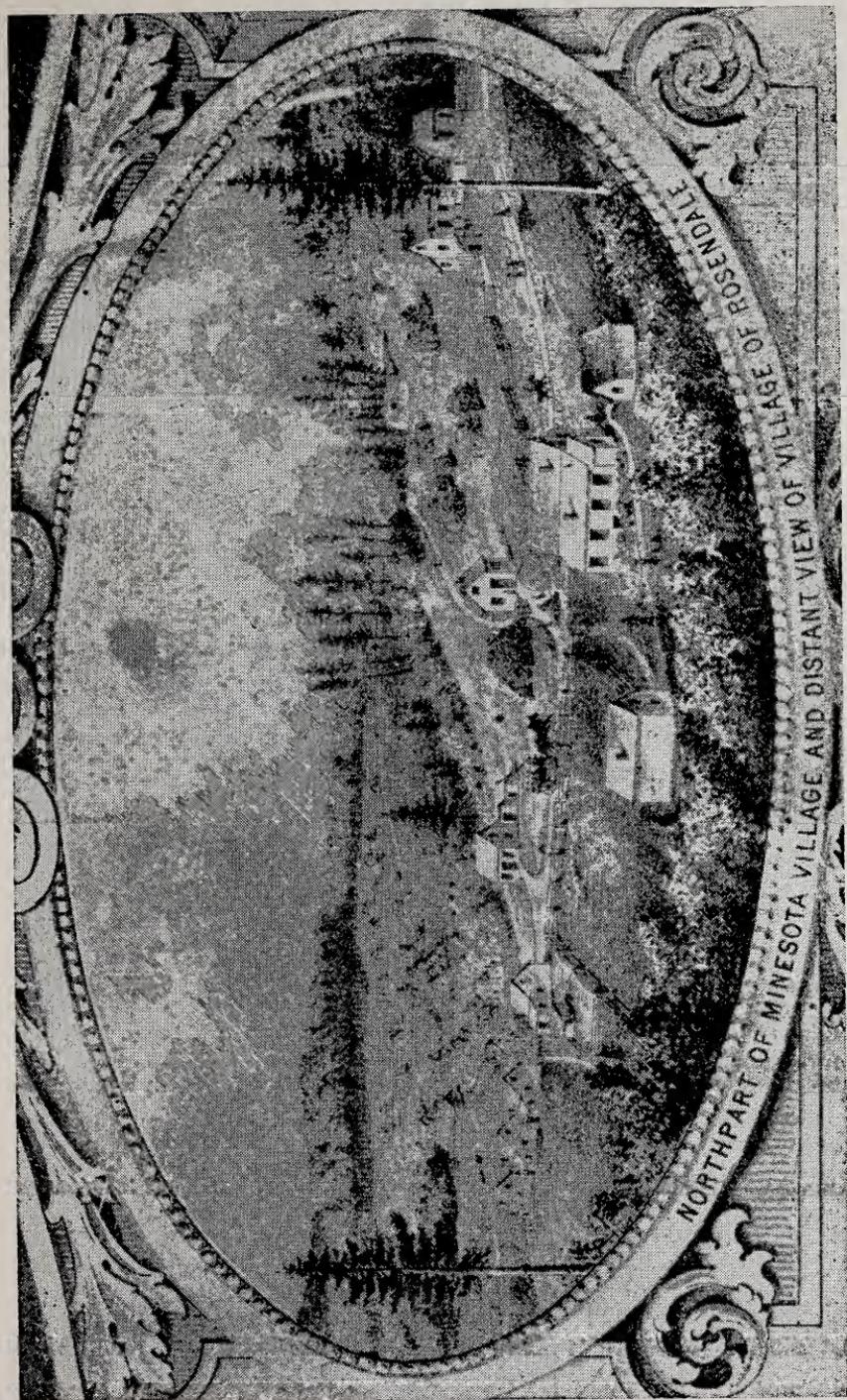
Several thousand years later another man stood on the exact spot occupied by the prehistoric miner. He was also a mining man in search of the same product. This man had the advantage of technical knowledge accumulated over the centuries. He had studied and read all the geological reports telling him of the great trap range he stood on. He had read of the formation of copper in fissure veins, contact veins, lodes or belts. He knew workable contact veins were

rare but here at his feet was mass copper in such a formation. Here a native copper had been exposed by the ancient miner. The man was Samuel O. Knapp, the time was the fall of 1847, and the event was the discovery or re-discovery of the fabulous Minesota lode. Up until then copper had either been found as float, in pieces on the surface, or in fissure veins as proven at the Cliff Mine in Keweenaw County. The Minesota lode ran with the formation and not as a true vein. In it were masses of copper weighing several tons, it proved to be the bonanza mine of its day.

When Mr. Knapp visited the Trap Range, mining work was being carried on by the Ontonagon Mining Company who had sunk two shallow shafts just south of the present town of Rockland. A few scattered buildings were clustered near the shafts and also one building near the Rosendale Company's exploration. The Ontonagon Company had several buildings and a warehouse on the banks of the Ontonagon River operated by Mr. Randolph. This was the first real mining along the Trap Range in this area and was done under mining permit #98 with George C. Bates of Detroit as director and agent. Transportation was of necessity by boat up the Ontonagon River from the mouth about twelve miles to the unloading points near the mine workings. A few crude wagon roads were built east from the river to service the mining location located two miles away. This early work of the Ontonagon Mining Company was the beginning of the settlement that would later be called Rockland.

Another company operated on part of the lands covered by old mining permit #98. This was the Peninsula Mining Company, later to be absorbed by the larger National and Minesota companies. The post office name of Rockland was finally given to the settlements of Rosendale, Williamsburg, Webster, Minesota Mine and the other nearby mining locations.

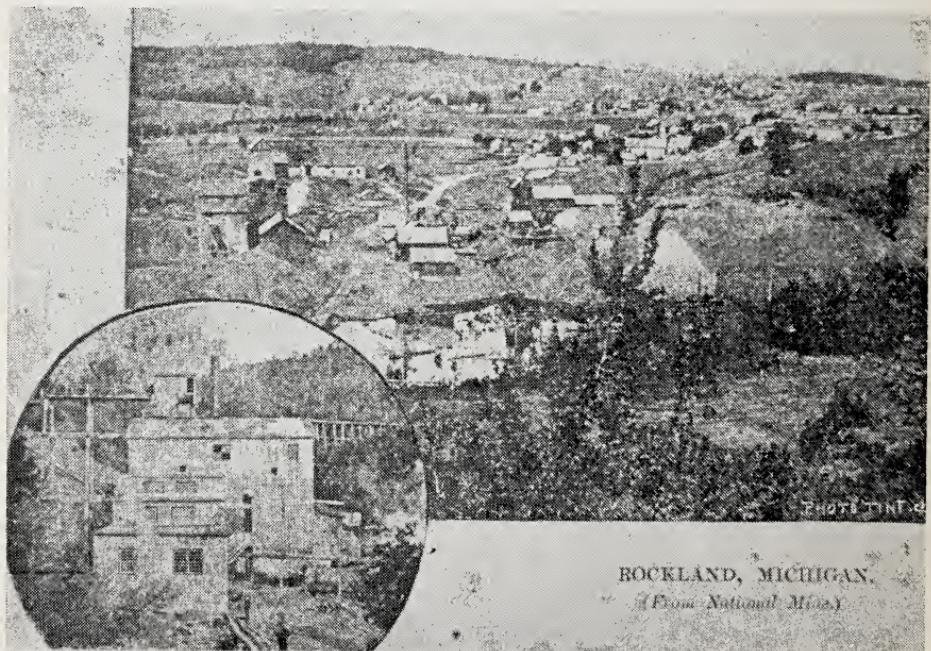
An early visitor to the area in the year 1847, Mr. A. P. Swineford says in his



North part of Minnesota Village and distant view of village of Rosendale in 1851.

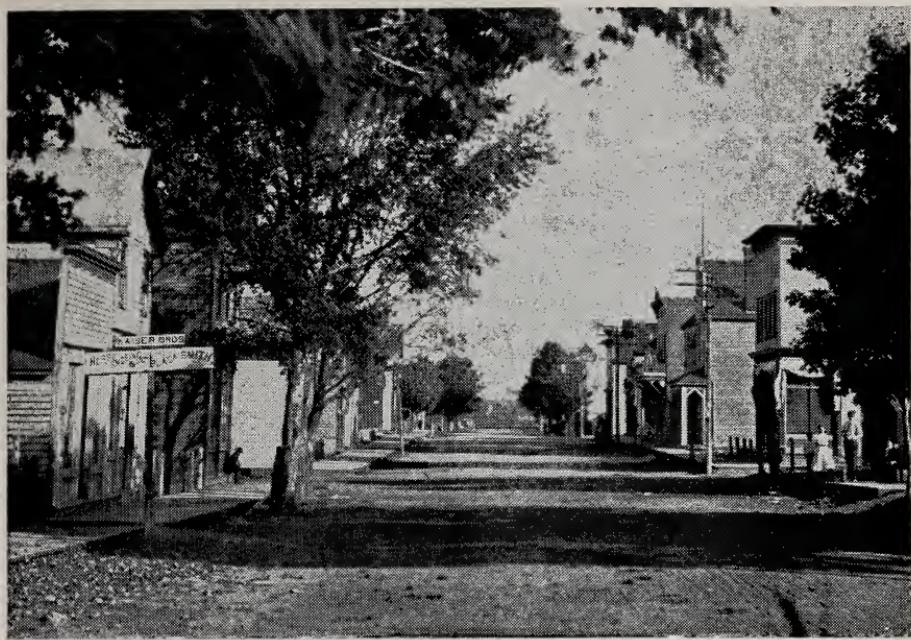


Michigan Mine "A" and "B" shafts in 1908.



ROCKLAND, MICHIGAN  
*(From National Mine)*

Village of Rockland from National Mine — 1890's.



Main street of Rockland in 1906.



View of Village of Rockland in 1912.

account that he found the following gentlemen living in the Rockland and National Mine community: Dr. Flanner, Dr. Osborne, I. N. Wright, Thomas Buzzo, Sutton, Webb, Richards, Chenoweth, Hoyt, F. G. White, Anthony, Sanderson and Cooper. He also states that the village of Rockland "sprang up under the nuture of the Minesota and National. Mr. Benjamin T. Rogers, Phelan, Johnson, and Judge Alan were prosperous citizens of that town."

As to political organization, the mining area was set off from the Township of Ontonagon by Legislative Act in 1850. The Act stated that township 50 North of Range 39 West be organized into a separate township by the name of Minnesota; and that the first township meeting be held at the house now occupied by S. O. Knapp. Three years after, the township lying immediately to the east was included and the name changed to Rockland Township, the first organization meeting held at the home of Daniel Cavina. There were further boundary changes in later years but the township name remained Rockland, and the settlement the Village of Rockland.

The village grew rapidly from its inception. The Minesota and National mines employed the largest number of men. By 1860 there were 236 buildings and a population of 1,844 persons which was approximately forty per cent of the entire population of the county. Ten years later a decline of mining operations reduced the population to 1,479 persons and by 1880 down to 877.

The early history of Rockland is tied in closely with the success of the Minnesota Mining Company operation. At this mine forty-eight men worked on the surface and thirty-six underground in 1850, six years later 471 men were working. The Minesota's most productive years were from 1854 to 1865, production reaching its peak in 1857 with 1,976 tons of copper produced and \$300,000 paid in dividends that year. The same year the largest mass of virgin copper was discovered between the adit and ten fathom level, being a single detached mass of

pure copper forty-five feet long and about eight feet thick weighing 525 tons and valued at \$150,000. It took twenty men 1½ years working with long chisels and hammers to cut it into chunks small enough to hoist to the surface for shipment. The production of the mighty Minesota during this peak year nearly totaled that of all other mines on the entire Trap Range including the famous Cliff. Employment at the mine increased to nearly eight hundred men. The bulk of the production continued to be mass copper only about ten per cent being stamp work. The 1863 report of its Agent J. B. Townsend shows a total of eleven shafts working, four steam winding-engines, two other steam engines for pumping and stamping and a small stamp mill with a daily capacity of forty tons. He talks of 750 acres of cleared land for agriculture which was being leased for farming. The company had sold about forty lots in their Rosendale plat that year. He concludes by saying the mine was well stocked with tools, material and supplies until navigation opens. Later in the year he reports a copper mass east of #3 shaft forty feet long and eight inches thick of about fifty tons in weight. The report concludes with a statement by the New York Board of Directors advising that the Michigan Supreme Court had ruled against them in favor of the National Mining Company on ownership of part of their mining property.

The price of copper dropped below twenty cents a pound in 1870 and the mine was closed, the stockholders had exploited it and were unwilling to spend any further money on it.

But one must not forget the National Mining Company lying immediately west of the Minesota. Organized about the same time as the Minesota with main office in Pittsburgh it produced steadily, reaching its peak in 1860 with 692 tons of copper produced. It was one of only three mines in this entire area that paid dividends, most of the copper produced at this mine was mass, the same formation as in the Minesota. Two hundred

seventy-three men were employed during the early sixties, most of the working force living in the town of Webster (later part of Rockland). The plank road from Ontonagon to Rockland was completed in 1860 which helped greatly in the transportation of copper and supplies. Until then the mines had to depend on river traffic boats going over several rapids and flowage conditions varying greatly with the different seasons. The National Mining Company's subscription was \$5,434.00 for the construction of the plank road. Mining Captain John Chynoweth's map of the mining operations showed seven shafts and three adits in 1862. The same report stated iron skip wagons with wire rope were being used on three shafts, a big improvement over the old kibble or iron bucket with its chains or hemp rope and limited capacity of about one thousand pounds. The company had 300 acres of land under cultivation producing 75 tons of hay, 25 tons of oats, 2,000 bushels of potatoes and 1,000 bushels of turnips. The farming as well as the hiring of teams of horses was all done under contract rather than a part of the company operation. The company doctor constructed a residence and office that year but as yet there was no hospital. The Methodist Episcopal Society erected a new church in the village of Webster. Average wage for laborers that year was \$25.00 per month with a top pay on skilled labor of \$40.00 per month, for blacksmiths. It was the only mine operating in the area in the late eighties when a tunnel was started in the face of a bluff above the river. It was planned to haul the mine rock through this adit to the river where a stamp mill was to be built. The high hopes of this mine to continue to produce were never realized although it was one of the best mines of this area producing well over 5,000 tons of copper during its operation.

One other mining company should be noted of the early producers in this vicinity. The Rockland Mining Company was organized in 1853 and closed twenty-seven years later, the last fourteen

years being on tribute. It's peak production was in 1861 when 388 tons of copper was produced. Its location was immediately west of the Minnesota Mine on the same contact vein. During its existence a total of 3,105 tons of copper were produced. The stockholders, largely from New York, sold the property to the Michigan Copper Mining Company in 1899. The annual report to the State Treasurer in 1859 showed \$200,000.00 paid in by the stockholders with William Campbell as president and William Hickok as secretary.

The Lake Superior Mining Company obtained one of the first mining company charters in Michigan with lands in both Keweenaw and Ontonagon counties. Their Ontonagon County holdings were located about one mile east of the Minnesota Mine in Sections 13 and 14. They did very little except exploration, producing a mere seven tons of copper during their existence and finally being absorbed by the Caledonia Company after 1902.

The Superior Mining Company was organized by the officers of the Minnesota in 1855 on adjacent land. There was no production the first three years. It was worked from 1858 to 1866 and thereafter on tribute to 1879. Their best year was 1864 with 51 tons of copper produced. An early report to the State Treasurer showed \$80,000.00 paid in by stockholders with total assets of \$122,000.00. It never was a paying proposition and produced 283 tons of copper during its entire lifetime.

The West Minnesota Mining Company located west of the Ontonagon River in the NE $\frac{1}{4}$  of Sec. 19, T 50 N, R 39 W was exploration only. An 1857 report to the State Treasurer showed \$20,000.00 paid in by the stockholders with no production. As with the Superior the directors were largely by the same personnel as the Minnesota Mining Company.

All the mines mentioned were a part of the early history of the town of Rockland. Only the Minnesota, National and Rockland were of importance, however,



Minesota landing on Ontonagon River -- 1851.

the rest being unsuccessful mining ventures.

If the Minesota was the start of the mining history of Rockland then the Michigan was the last. This company was no piker, it meant business and business on a large scale. Organized in 1899 and capitalized at \$2,500,000.00 it had paid in one million dollars on the capital stock two years later. The principal office was in New York but the stockholders were largely from Detroit. The local office was in Rockland, Samuel Brody being mine superintendent, Henry Stubensky chief clerk, T. E. Vance mine engineer, and J. C. Thomas mine captain. The company's holding included all of the Minesota, Superior and Rockland pro-

perties, but not National, totaling over 5,000 acres in all. The first \$360,000.00 was spent on land and sinking three shafts on the old Minesota property in Section 15.

Prospects looked good for the Michigan. The 1906 report of the State Commissioner of Mineral Statistics in 1906 stated that it was the most important mine in the Ontonagon district. Because of labor shortage it only worked seven months that year yet produced 1,837 tons of refined copper. Not bad when you remember that the mighty Minesota produced 1,937 tons in its best year. But probably the two should not be compared because of the difference in mining machinery. It must be remembered

the Minnesota was mined with black powder, hand drilled; the gravity stamps crushed the rock with only the power of a 60 H P boiler. The little mill had a mere 40 ton daily capacity and only could be operated where there was enough water. Early mining was largely by hand and horse power making it more profitable for them to mine mass copper than to attempt stamping the ore.

Still the Michigan was doing all right for seven months production. Three shafts were operating on fourteen levels with a daily capacity of 460 tons of rock. Ten new houses were built that year and a large stamp mill constructed on Keweenaw Bay to handle the Michigan ore. Three hundred fifty men were employed and the mining village of Rockland was booming again. It now had an opera house, weekly newspaper (Reporter) and a bank. There were three churches, Catholic, Methodist, and Episcopalian serving the 1,500 people living in the area.

Maybe the Company was overextended in its operation, the 1908 and 1909 reports show deficits and in 1910 the Board of Directors decided to suspend all mining operations except for further exploration of their principal shaft known as the "B" shaft. But even in their last year of operation 1,192 tons of copper was produced, 1,900,000 lbs. in stamp, and 485,000 lbs. in mass but did not show a profit, which of course is what the stockholders demand.

The closing of the Michigan operation marked the end of the mining activity at Rockland. If the combined mineral assets of the Minnesota, Superior, and Rockland properties couldn't make it pay the area was hard pressed to attract any new capital for another try. Thus the mining activity was started in 1847 by the mighty Minnesota, and finished with the mighty effort of the Michigan, sixty-three years later.

The earliest mining activity in this area was, of necessity, near water transportation so Rockland was first, but this was closely followed by activity near the present village of Greenland. Some

prospecting under mineral permits had been done near Greenland before 1848 but no organized companies were incorporated until then. The Algonquin and Bohemian started that year, followed by the Toltec in 1849, and the Adventure one year later. These mining locations were the start of the village of Maple Grove, later known as Greenland. All activity was along the Trap Range and the ancient miners pits were certainly not confined to the Rockland area and many mines in the Greenland district were opened on these old workings. Later prospecting found two parallel belts of copper bearing strata, about one-half mile apart, the northern belt was known as the Minnesota and the southern known as the Evergreen belt or South Range. It was on this latter formation that the Adventure worked.

The Adventure Mining Company was to the village of Greenland what the Minnesota was to the town of Rockland. But first let's look at some of the lesser lights.

Charles Whittlesey tells of visiting the Algonquin in 1846: "The mining company for which we are acting is called the Algonquin composed of Detroit capital. Our location 4 in number is on the waters of the Flint Steel River. Toward evening we entered the mouth of the Flint Steel River which is six miles east of Ontonagon. Dragging our boats over the bar we rowed two miles up the stream and landed. From thence to the location is about twelve miles over beautiful rolling country of sugar maple. The copper found here is chiefly native enclosed in trap rock. We brought away a piece weighing seven pounds. Left the location with snow on the ground and proceeded by boat down the lake. A little after nine o'clock P.M. we passed the mouth of the Misery River, a bleak and desert place, without firewood. Some of the party thought they saw a light at the old camp but we continued on." A strong wind forced them to beach their boat but the next day they reached Copper Harbor. This company started with Philadelphia capital, officers Ben-



Adventure Mine — Mining Captain Wilcox with miners in 1890's.



Adventure Mine near Greenland in 1915.

jamin Webb as president, and Paul Bushnell as secretary, on lands in the NE corner of T 51 N, R 37 W. They mined for about ten years, later selling to the Pennsylvania. They are mentioned because they were one of the first organized companies in the area.

The Bohemian, Ridge, Ogema and Evergreen Bluff companies all operated just south of the present village of Greenland. Of these, the Bohemian organized in 1848 was the oldest, followed closely by the Ridge, then Evergreen Bluff, the Ogema not getting into production until 1860.

Just east of Maple Grove (Greenland) was the Farm Mining Company organized in 1852, and to the SE the Merchants organized in 1856, the Aztec organized in 1850 was just east of and adjacent to the Farm Mining Company. The Toltec started operations in 1849 and the Adventure the following year; all these mines contributed to the establishment of the town of Greenland. But by far the Adventure Mining Company contributed the most in making it a lasting community.

The original Adventure Mining Company was organized on December 14, 1850 with their principal office in Pittsburgh and a branch office at the Cliff Mine then operating near Eagle Harbor. They even had a third office in Boston, C. G. Hussey was president and James Cooper secretary. Five years later the stockholders had paid in \$77,000.00 for a total production of 34 tons. Peak production for this original company was in 1857 when a little over one hundred tons were produced. This was a poor showing for the stockholders to invest more money in, so by 1880 activity had practically ceased and tributors worked the mine. The first mining showed promising signs and interest was again aroused in its possibility in 1898 on a much greater scale.

The new organization was called Adventure Consolidated Copper Company with the main office in New York, and a local office in Greenland. The consolidation absorbed the Knowlton, Mer-

chants and Hilton as well as the former Adventure properties. Work started on four different shafts and a long tunnel to get greater production of ore to the surface. Modern hoists and crushers were installed and a stamp mill constructed on Lake Superior in Houghton County, the ore transported by rail. The Lake Superior site was selected because in the words of the mining officials "it would have all of Lake Superior to pile its tailings in." They never quite accomplished filling the entire lake, the mill had a capacity of 1,500 tons daily but the mine just didn't produce enough good rock. The Boston News Bureau said of the operation, "There is no denying the fact that there have been mistakes in management. Very expensive surface equipment far beyond the known capacity of the mine was bought before knowing underground possibilities."

Adventure shareholders continued to pour more money into the operation, however. By 1906 nearly two million dollars had been spent on a steadily losing proposition. Deficits varied from \$90,000.00 to \$19,000.00 yearly, with never a dividend paid. In desperation a fifth shaft was sunk in 1909 and another \$55,000.00 spent. By then the stockholders had finally had it, the stamp mill closed, and all work discontinued at the mine. It took 59 years to prove the Adventure was just an adventure. No one can say they didn't try. At their peak operation over 350 men were employed, most of them living in Maple Grove (Greenland) and the town was pretty well controlled by the company during this period. In 1901 it was to be the most promising mine in Ontonagon County and Adventure shares were selling rapidly so the management of the company had visions of a grand scale operation. New construction in the townsite included a hotel, boarding house, a water reservoir on the bluff for fire protection, and several new houses. Their millsite on Lake Superior was serviced by a spur of the Copper Range Railroad and had several buildings near the mill to service their employees. With the closing

of the Adventure the economy of the village of Greenland was in a very bad way with an uncertain future.

There were several companies organized NE of Greenland in Ontonagon County along the Trap Range which will be listed only, as they did not contribute any lasting effect on the community, and were later absorbed by larger mining companies. Listing in order northeast of Greenland they were Farm and Aztec formerly mentioned, Ohio, Algoma, Picataqua, Chippewa, Lake, North Lake, Indiana, Flintsteel River, What Cheer, Henwood, Douglass Houghton, Bohemia, Coulter, Algonquin formerly mentioned, Penn and King Philip.

These properties were scattered over an eight mile area mostly along the Trap Range. The Indiana Mining Company, Belt Pool, and finally the Lake Copper Company in 1905 absorbed most of these early mines in an attempt to mine on a larger scale.

Some of the very early companies did very little except prospecting but then a little more detail should be told of the Douglass Houghton, one of the first in the entire county. The property was obtained through mineral permit, the same as the Minnesota. It operated from 1846 until 1851 in this manner. The land was then purchased, consisting of 480 acres in Sec. 15, T 51 N, R 37 W. The mine was started on a bluff in the NW $\frac{1}{4}$  of the section at the end of a ridge. By 1852 the company had cleared twenty-five acres for farming, had a dam built on the east branch of the Flintsteel River, a stamp house, sawmill, ten dwellings, a boarding house, barn, and other mining buildings. Four shafts had been sunk, the deepest 170 feet, a few tons of barrel and mass copper had been shipped to the Waterbury Smelting Works in Detroit.

By 1865 sixty-five men were working and a good wagon road had been constructed to the Piscataqua Mine. The road from there toward Ontonagon was very poor yet. The Douglass Houghton Company finally sold out to Henwood Mines, Incorporated for \$90,000.00, who

operated it a short time at no profit. All the mines in this area needed an outlet to Ontonagon badly as this was their closest town for supplies to be shipped in. Several of the companies had contacted the State Legislature regarding better travel facilities and in 1850 by Legislative Act the Ontonagon Plank Road was approved and incorporated. Under the direction of the subscribers Luther W. Clark, Augustus Coburn and Josiah Chandler were appointed as commissioners. The company proceeded to lay out and construct a plank road from the "Aztec or Adventure Mine or near the same" north to a point on the Ontonagon River. Capital stock was set at \$50,000.00 with the bulk of stock sold to the Algoma, Toltec, Farm, Bohemian and Adventure mining companies. There was a cluster of buildings at each location, the Bohemian Company had a total of twenty-one but the most flourishing village was Maple Grove with the town already built up to the west line of Section 26 and rapidly growing to the east. The road naturally passed along the south line of this section to service the community. The road was not finally completed, however, until 1874 and was known as the Miners Road. It was used before completion but tolls were not charged until after planking.

The first usable all weather road to the trap range was the plank road from Ontonagon to Rockland completed in 1860 and with the completion of the so-called Miners plank road from Ontonagon to Greenland in 1874, transportation was not quite so difficult.

The Michigan Legislature was also trying to do something to open up the country for the mines and other settlers. Money was scarce during Michigan's early history so land was the medium of exchange. Nearly six million acres of so-called Swamp lands were granted by the Federal government to the State; some to be used for road purposes. The Act stated, "An act to provide for the drainage and reclamation of swamp lands by means of State Roads and ditches." It must be remembered that lands included

in this grant were not only swamp lands but upland as well. In fact only a small percentage of the total acres were actually swamp.

Right after the passage of this Act in 1859 approval of the first of these "State" roads crossing the Trap Range was granted from Copper Harbor to Houghton, thence to the eastern boundary line of Ontonagon County, to be known as the Mineral Range State Road. Also a road from the Village of Ontonagon southerly to the State line, to be known as the Ontonagon and State Line Road. Needless to say, these roads were never completed but some work was done on them. There was a road of sorts by 1865 connecting Houghton with Ontonagon. That year the Legislature approved a road to be constructed "on the most direct and eligible route, commencing at the village of Maple Grove and from thence along the Mineral Range in a southwesterly direction to Lake Cogebie." This was to be an extension of the Mineral Range State Road. It was never built.

The same year a road was authorized from the Winona Mine in a northerly direction to the village of Franklin at the mouth of the Misery River.

An 1854 mining map compiled by George Hatch, Jr. of New York, shows a wagon road leading from this settlement on the Lake Superior shore to a mining venture located on the  $N\frac{1}{2}$  of Section 2 T. 52 N. R. 36W. known as Franklin Mine. This same road also serviced the Stonington and Shawmut mines located in Section 10 of the same township. The small settlement of Franklin only had a brief history, soon after 1865 the few residents moved out after the failure of the mining attempt.

In its eagerness to open up the country the Congressional Act of 1852 granted a 100 foot right of way "to any company that are now or may be chartered within ten years through any of the public lands in the United States for construction of a rail and plank road or macadamized road." In 1865 the Marquette and Ontonagon Railroad was or-

ganized but only constructed as far as L'Anse several years later.

The Act of 1863 released state land for the construction of the so-called Military Road from Fort Wilkins to Fort Howard. This road passed through the trap range turning southerly about one mile east of Rockland. John M. Longyear an early timber cruiser and later owner of one of the largest land holding companies in the Upper Peninsula tells of the roads while surveying and timber cruising near Rockland in 1873. He speaks of only tote-roads and bumpy railroad tracks as means of inland transportation. Quoting from his reminiscences he says, "a fairly passable wagon road ran from the outer end of Keweenaw Point to Rockland and Ontonagon. The excellence of this road was mainly due to the natural material over which it was laid, for very little work had been done on it, in fact on any Upper Peninsula wagon road at that time."

The Military wagon road running south of Rockland was being built then with a construction camp located about twenty miles south of Rockland. Even on the Mineral Range State Road which was supposed to be completed, it took Mr. Longyear two days to travel with team and wagon from Rockland to Houghton after experiencing some trouble with their wagon near the Halfway House. The road was located near present M-26 as it followed near the top of the Trap Range.

There was a road connection from Rockland to L'Anse soon after, by 1882 a daily stage left Rockland at 5:30 A. M. passing through Greenland and making a rail connection in L'Anse the same day.

We haven't finished with the mining history of this area. The town of Mass was directly related to this industry.

The first Mass Mining Company was organized in 1856 with Pittsburgh capital and the same president as the Adventure, C. G. Hussey. The SW $\frac{1}{4}$  of Section 6, T 50 N, R 38 W was purchased for \$11,000.00, on an actual down payment of \$750.00. The first

year eight tons of copper was smelted at Detroit and Cleveland. The mine ran erratically for several years closing in 1860, closing and opening several times until 1886. After that it was worked by tributors until the reorganization of the company as the Mass Consolidated Mining Company in 1899. No dividends were ever paid on the original organized company and about \$150,000.00 was spent.

The 1898-1899 era was evidently the time to think big and to consolidate. Remember the Michigan at Rockland, the Adventure at Greenland, and now we have the Mass Consolidated at Mass during this period. Mines included in the merger were the original Mass, Ridge, Ogema, Evergreen Bluff, Merrimac, and Hazard. This ownership pretty well blocked in all lands immediately west and south of the present village of Mass.

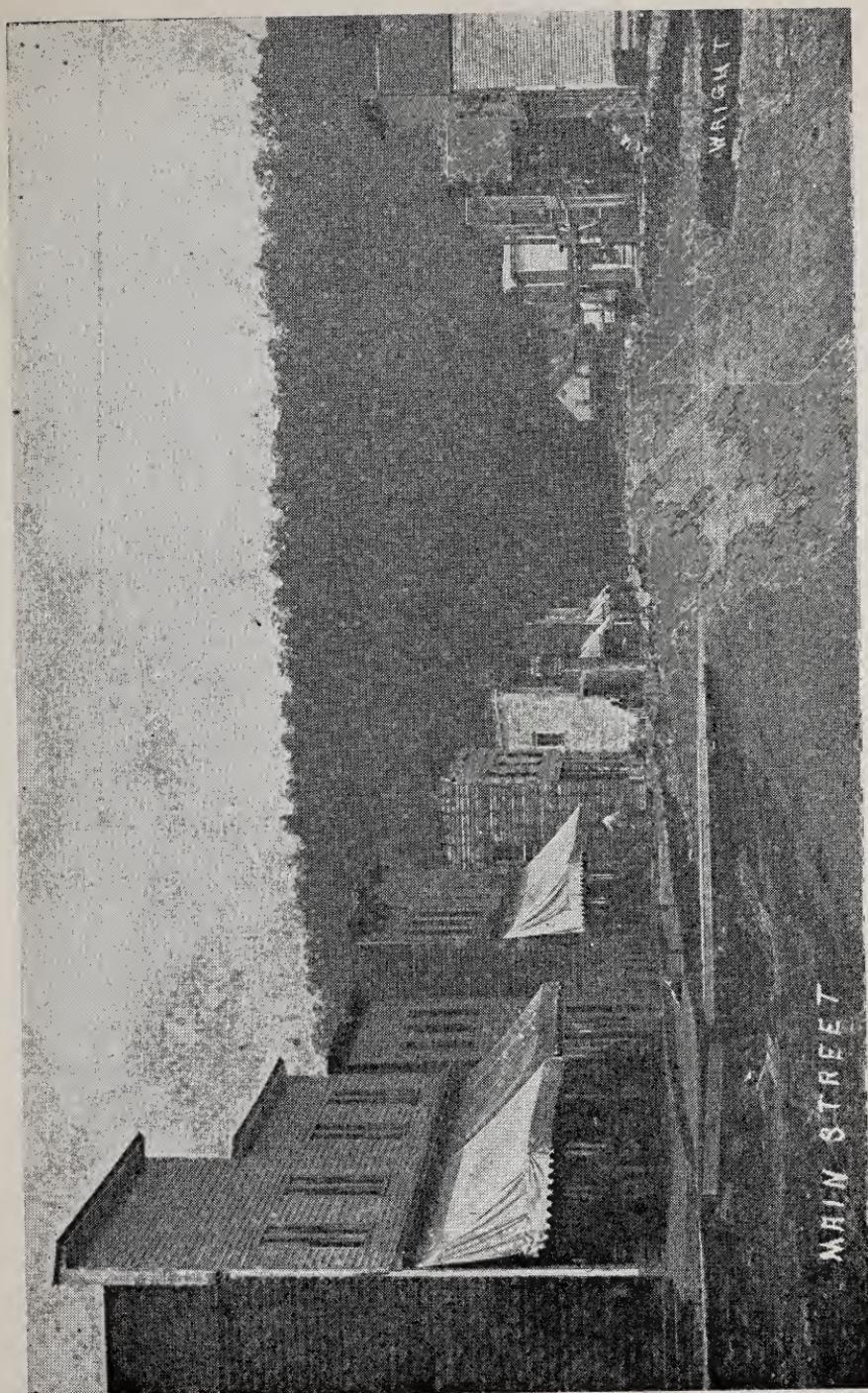
The Merrimac and Hazard had produced very little copper, being mostly exploration, with only shallow shafts sunk. This was not true of the other three mining companies consolidated. The Ogema had sunk two shafts of 200 foot depth, produced 491 tons of refined copper and expended \$140,000.00. The Evergreen Bluff Company, opened in 1853 with Detroit Capital, had produced 675 tons of copper at a cost of \$223,000.00.

The Ridge has to be classed as one of the best mines in this area. It was one of only three mines that ever paid dividends. From its organization in 1850 until 1887 it produced a total of 2,528 tons of refined copper and paid its stockholders \$100,000 in dividends. Its best year of production was in 1874 when 187 tons were mined, a good production with the old hand drills and black powder. At least one-half million dollars was spent by the various managements during its lifetime.

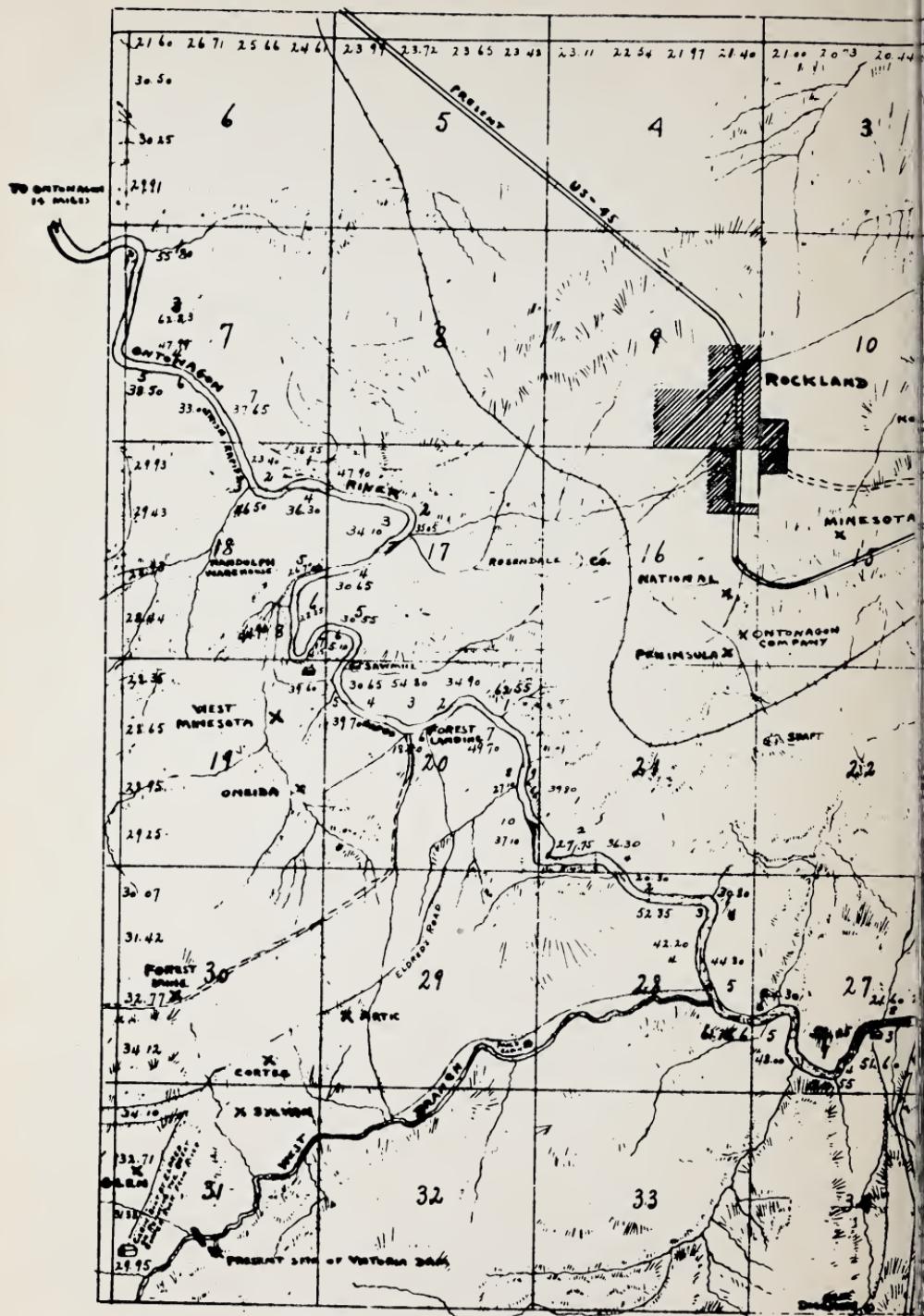
With the new Mass activity a townsite was platted and called Mass City. The first settlement near the old mine consisted of five log dwellings, three frame houses, barn, office, warehouse,

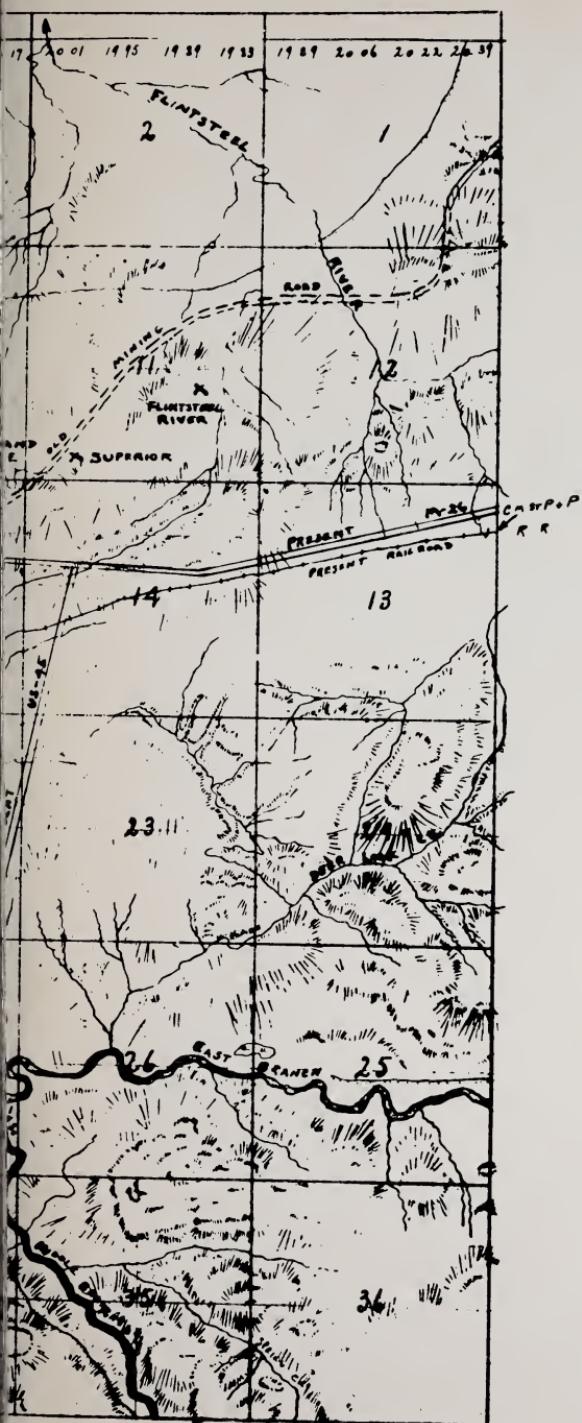
whim, and two shaft houses. Only 43 men were employed by the company in 1876, production being a mere 15 tons, mostly mass copper. The new Mass Company reopened on the Ridge location repairing and constructing new buildings including fifty dwellings. The townsite was on the terminus of the Copper Range railroad and near to the C. M. and St. Paul Railroad. The branch of the Mineral Range between Mass City and Keweenaw Bay was constructed to their mill site located there. This gave them a harbor outlet and unlimited water supply. Total cost of the 34 miles of railroad was \$750,000.00. Milling started on August 1, 1901 with a capacity of 900 tons of stamp rock daily but only about 550 tons were being processed daily a year later. Located at their mill site were wharves, warehouse, shops and several dwellings. Charles Krause was in charge of the mill operation and James M. Wilcox formerly with the Arcadian Mine was mining superintendent. W. A. Brown acted as chief clerk, E. V. Palmer and E. F. Douglass were the mining engineers, and Samuel Rawlings, master mechanic. Well over a million dollars was paid in on the capital stock during their operation from 1899 to 1910. Even though production was up to 850 tons in 1909 the mine just broke even. Several years there was a net loss of up to \$100,000.00

One other group of mines operated between the towns of Rockland, Mass, and Greenland. The Flintsteel Mining Company was organized in 1853 and the Nebraska one year later on adjacent lands. The Commissioner of Mineral Statistics shows the Flintsteel having only a seven ton production to 1865, and then 198 tons in one year. This did not last, however, as it just totaled 415 tons of copper up until its closing in 1881. Records in the State Treasurer's office show the Nebraska stockholders paying \$65,000 the first year. A total of 57 tons was produced until it became Caledonia in 1863. The combined production of the Nebraska-Caledonia companies was only 189 tons when it was

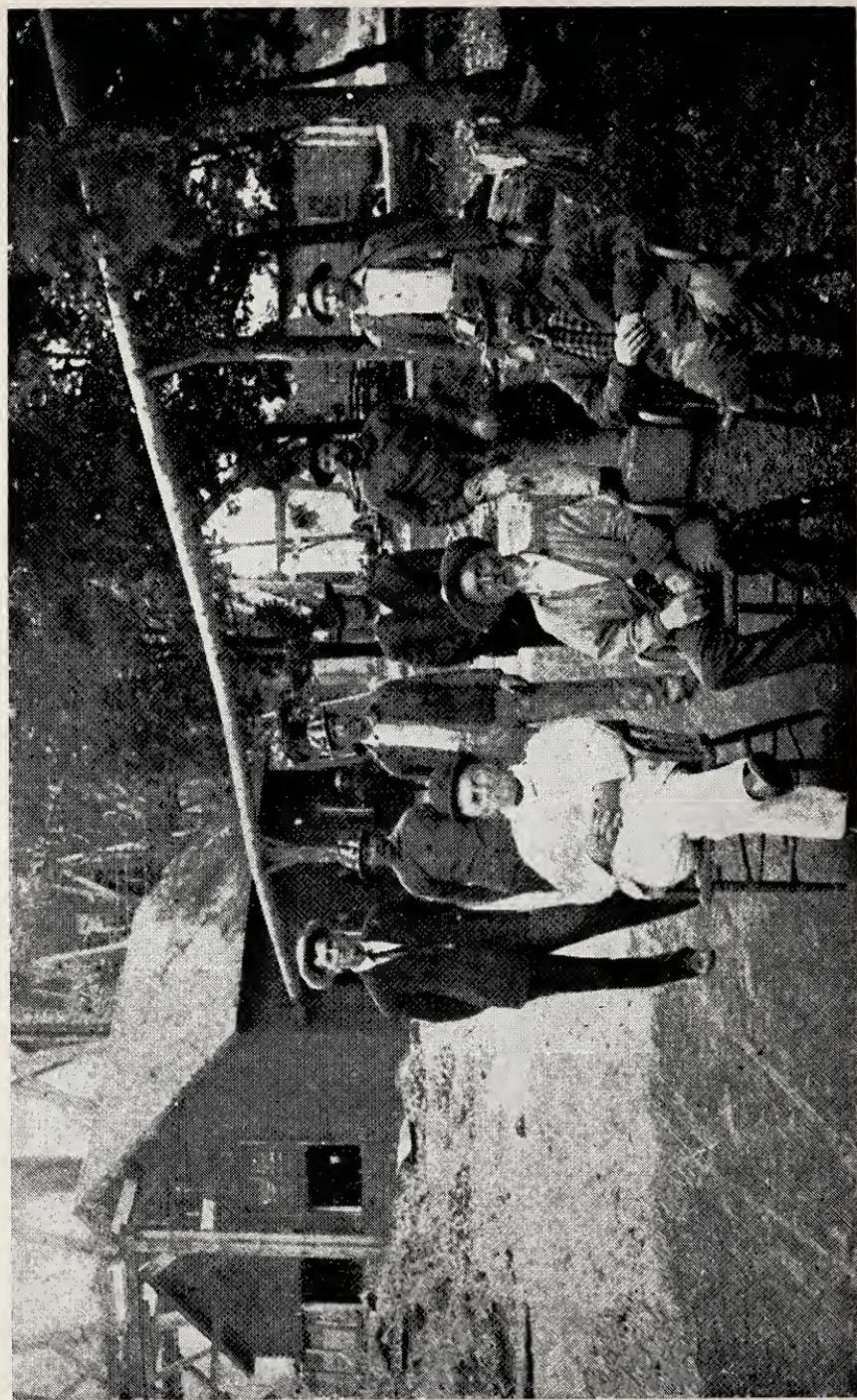


Adventure Avenue — Mass., Michigan in 1905.





Map showing mining activity in T. 50N. R. 39W. in 1855, Ontonagon County, Michigan. The roads, railroads, and village of Rockland are shown on this map in their present location to indicate the relationship of the old mining locations to the present time.



Mass Mine — Mining Captain Wilcox with assistants in 1910.

taken over by the Flintsteel River Company in 1872. A new attempt at mining at this location was started in 1902 by consolidating the Flintsteel and Lake Superior properties spending \$300,000 with main office in New York.

Another group of mines located east of Mass and Greenland operated on and off until about 1918 on a limited scale.

There is no question the great copper miners strike of 1913 affected all the copper mines in Keweenaw, Houghton, and Ontonagon Counties and this group of mines in particular. Many of the smaller companies were operating on a very marginal basis. The fluxation of the price of copper even one cent a pound, or the change in the grade of ore one or two pounds of copper to the ton could mean the difference of operating at a profit or not. In 1913 the average wage of the copper miners was \$3.20 per day and long hours but most of the mining companies did provide houses at low rentals, and some built schools, hospitals, and even libraries. However, the miners decided that conditions were not satisfactory and the first major strike in this part of the country began. This account does not attempt to claim either the companies or miners were right but this strike did have a lasting effect on the copper industry long after the strike was over.

Only the Victoria Mine continued to operate in this area through the strike year, all work ceased at the Adventure, Algoma, Indiana, Lake, Mass, North Lake, South Lake, and even tributary work at the Michigan. Most of the companies never fully recovered, the Lake did produce the longest, until 1919, when it also was closed for good.

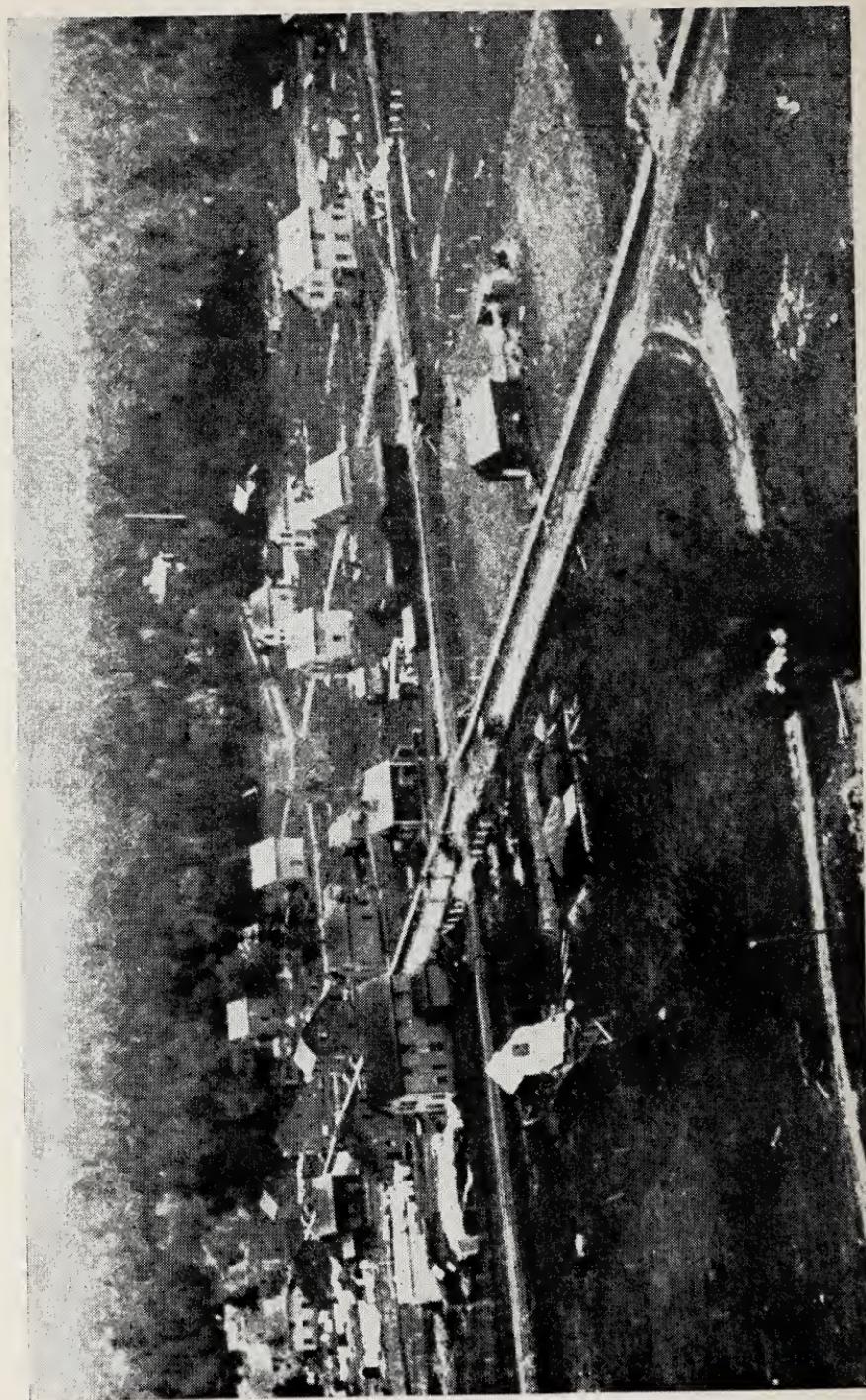
The Indiana opened in 1854 and later in 1862 on Sec. 21, T 51 N, R 37 W located just southwest of the Douglass Houghton lands. The entire section was purchased for \$1,600.00 and mining started at once. Two shafts were sunk and a stamp mill built. After spending \$200,000 the company decided to stop all work. No copper production is noted in the records, their equipment was dis-

posed of after the three-year operation.

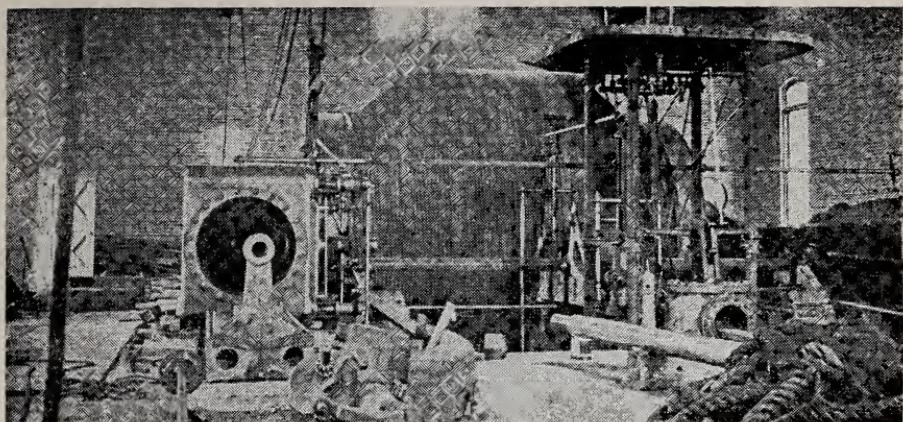
The last group of mines east of Mass and Greenland was a consolidation of several of the old companies. Most of the work was in the NE $\frac{1}{4}$  of Sec. 31, T 51 N, R 37 W, first as the Piscataqua, then International and Bohemian companies. In 1882 the Bohemian and Great Western properties were sold to the Belt Mines Company Ltd., an English company, including the Penn holdings to the north. This operation proved a failure, largely to mismanagement and a new company was organized called just Belt Mining Company, in 1900. The mine was pumped out and active work started on two shafts known as the Butler and Knowlton. This attempt also proved unsuccessful, so in 1906 the Lake Copper Company was organized on lands formerly owned by the old Belt. Their 1906 report says twenty men were working with power drills on a new shaft down then to a depth of 650 feet. Also extensive diamond drilling was being done on the Baltic lode under the direction of Reginald Pryor. Results of their work shown in the report of 1910, when 10,000 tons of rock were stamped producing 169 tons of refined copper. In 1916 the mine earned \$108,000 but closed a few years after. At its peak there was quite a settlement near the mine, a store, school, several company houses, railroad depot and several mining buildings. Very little evidence of the town known as Lake Mine exists today.

The Algoma Mining Company should be included with this group of mines. It was organized in 1852 and located on the SW $\frac{1}{4}$  of Section 30, T 51 N, R 37 W. The capital stock was set at \$30,000 but only \$4,100 paid in the first year. Their business office was in Ontonagon with Thomas Hanna president, A. Coburn secretary and Edward Sales and James Carson directors. It produced very little, its chief contribution being its payments to the Ontonagon Plank Road which passed by the location.

Another abandoned mining town is located southwest of Rockland. It is



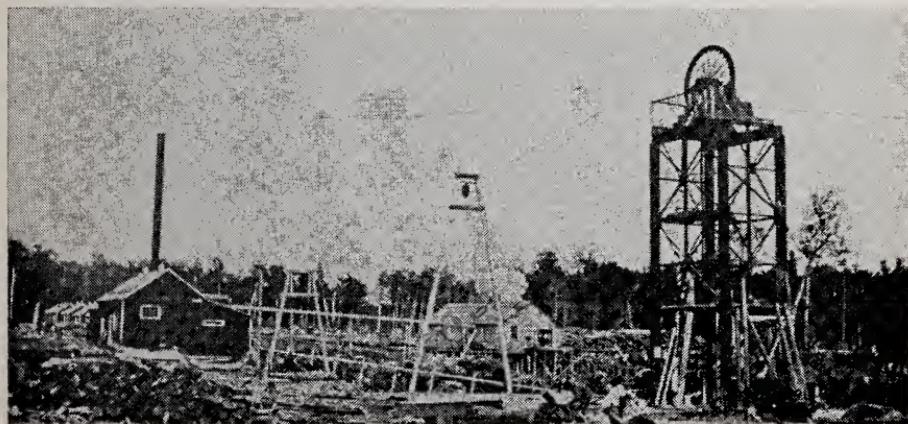
Lake Mine mining location in 1911.



Installing new hoist at Lake Mine.



South Lake Mine — 1911.



Vertical shaft (in Felsite) at Indiana Mine — 1911.

near the site of the earliest attempt at mining in Michigan; the early work of Alexander Henry along the Ontonagon River in 1771, and also near the location of the famous copper boulder. Actually the Forest Mine started the first serious mining on the NE $\frac{1}{4}$  of Sec. 36, T 50 N, R 40 W in 1852 near the old "Cushman location" which had been developed under the direction of Cushman in the N $\frac{1}{2}$  of Section 36, T 50 N, R 40 W, under mineral permit. In 1850 geologists Foster and Whitney reported some work by the Forest Company on ancient pits in the SW $\frac{1}{4}$  of Sec. 30, shafts of 21 and 13 feet being sunk on lode quartz, native copper appearing in bunches. There were 18 men employed at that time. Other work was done on ancient pits found in Section 31 showing a vein of copper three feet in width. One hundred sixty-six tons of copper was produced by the Forest before its reorganization as the Victoria in 1858. Very little production resulted from the property after that date as there was a series of disasters and mismanagement up until its final reorganization in 1898. Among the misfortunes was the destruction of its first stamp mill by a forest fire, the second mill by a river flood, and the third mill's failure was due to insufficient water power. Under the new reorganization the Glenn, Shirley, Sylvan, Oneida and Artic properties were included with the Victoria lands. Main office of the new organization was in Boston and the mine was under the able supervision of Thomas Hooper. He is credited with the installation of a unique hydraulic air compression system consisting of a large dam across the Ontonagon River which diverted the water above Glen Falls into a canal and thence to a forebay with vertical shafts to utilize cheap water power. One hundred men worked at the Victoria in 1901 working one shaft located in the SW $\frac{1}{4}$  of Sec. 30, T 50 N, R 39 W. By 1906 the employment had doubled, the air compression system was furnishing 5,000 H P for the stamp mill and 273 tons of refined copper were produced. Captain Hooper showed a

profit of \$34,000 during the year and by efficient management on a more modest scale than some of the other former ventures in the area, kept the mine paying for a few more years. In 1909 the profit was \$28,000 on over 260 tons of copper: this was built up to 837 tons by 1916 with a net profit of \$176,000. With the price of copper falling off after World War I the Victoria was closed for good. The flowage rights along the river were later sold to the local power company and the Victoria Company was dissolved. Very little evidence of the once thriving town is seen today.

When the mining first began several of the mining companies had their own small sawmill to cut logs from the forest into lumber necessary for housing and mining buildings. This lumbering industry survived after the mining had ceased. Of course the first production was on a very limited scale with lumber produced only for use at the mines. First of these early sawmills was the Harris and Vogtlin mill located on the Ontonagon River two miles southwest of the Village of Rockland. This mill was producing lumber for several mining locations by 1855. They furnished lumber for these early boom mining towns even as far away as the Village of Maple Grove (Greenland), which was the first to be officially laid out as a townsite. This plat was located on the SW $\frac{1}{4}$  of Section 26, T 51 N, R 38 W and shows the plank road leading to Ontonagon along the south line of the village. James Burtenshaw and A. Coburn were the proprietors, with G. L. Brunschweiler doing the survey work.

Soon after this the Minnesota Mining Company hired George Emerson to plat the village of Rosendale and Charles Merryweather to lay out the townsite of Webster. These, with additions, now comprise the town of Rockland. Mass was the last of the larger mining towns to be platted in 1899, although several mining locations had operated in this vicinity since the 1850's. The proprietor, Abram Mathews, used several of these

old mining locations as street names such as Ridge, Mass, Ogima, Adventure, and Merrimac.

Small sawmills provided lumber for the early building but it was not until the Diamond Match Company became interested in the pine along the Ontonagon River that extensive logging was started. Beginning about 1890 this company began cutting south of this area along the Ontonagon River. The logs were floated to the mills at the river's mouth in Ontonagon and cut into lumber. One of the early loggers for this company was John Bebeau who first worked for several mining companies producing whipsawed lumber for their company towns. Later he logged for the Rich Brothers and Diamond Match Company along the Middle and East Branch of the Ontonagon River. Jerry Penegor, who also had come from Canada, worked in partnership with Bebeau for many years.

Activity also started to the east of the river near Pori. Louis Ouellette leased a mill site to John Hubbell in May of 1892 on a site now known as Rousseau. The lease covered "any lands needed for mills, lumber, railroad and dwelling houses and included daming the creek running across said land." The stream is still known as Hubbell Creek. The mill was destroyed by fire in 1898 after sawing several million feet of pine lumber.

Lumbering activity in this township first centered around the Pori-Rousseau area because of the stand of pine timber. The C. M. & St. Paul railroad and also the Mineral Range railroad serviced the general locality so the lumber products could be shipped out. During this same pine period the Holt Lumber Company and Brittingham and Hizon Company were active south of Rockland.

One other sawmill operated for a short time south of Mass near the railroad junction of McKeever. Jerry Penegor and sons ran this mill for a few years previous to the logging of the hardwood and hemlock timber.

The pine era was relatively short lived and was followed by the loggers cutting

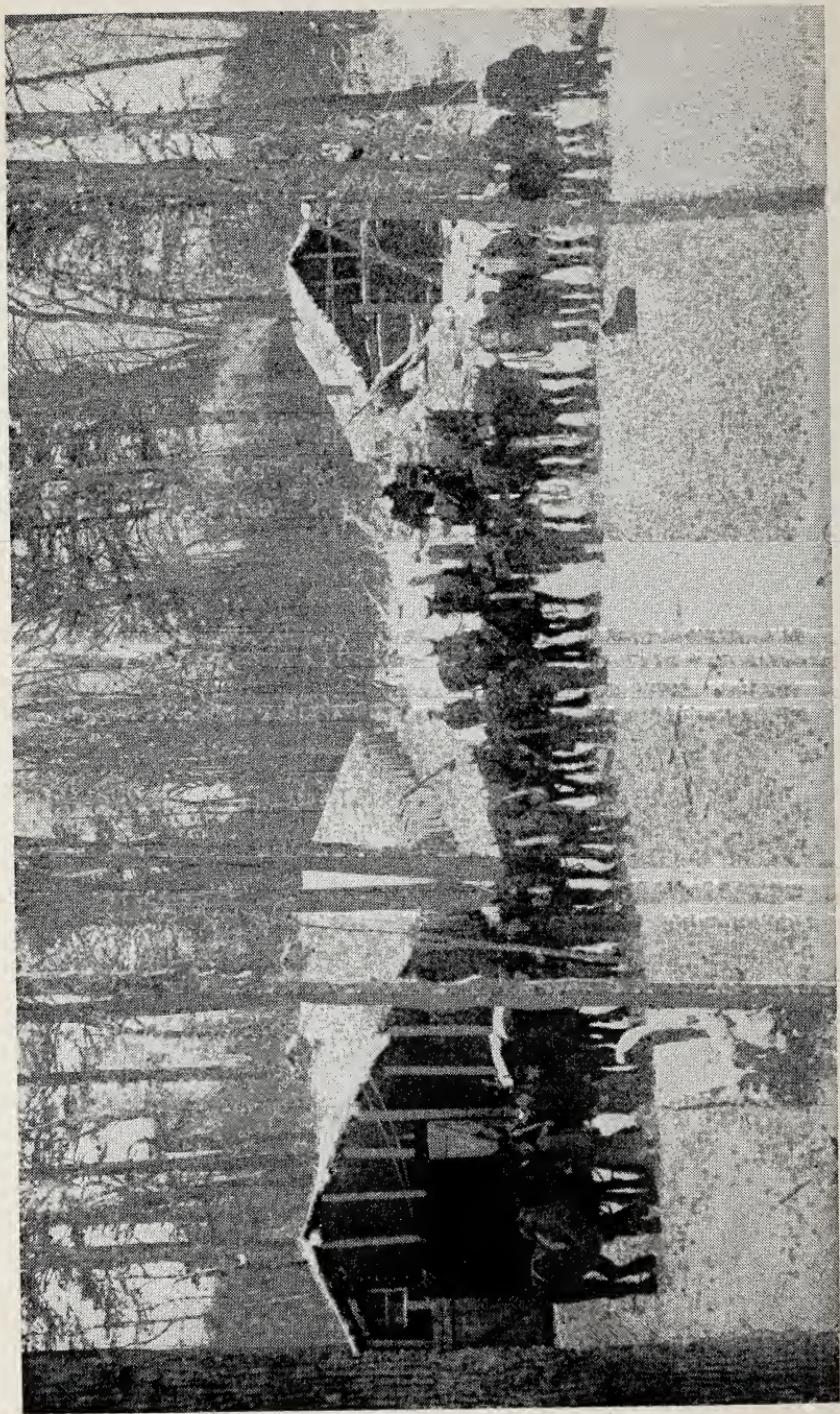
the hardwood and hemlock timber. The largest sawmill cutting this type of timber was located just south of Mass City. Logging of this species of timber continued at a steady rate all through the 1920's and on until about 1963 when the Mass City sawmill was shut down permanently.

The mill was first built by Von Platten - Fox in 1935. Henry Plutchak erected the sawmill and continued as the millwright until it ceased operations. Abbott Fox became the owner in 1941 continuing the manufacture of lumber until 1956 when he sold the mill to Henry Plutchak. The mill operated for seven more years with an average daily cut of 24,000 board feet. During its life it produced some 200 million board feet of lumber.

There is still some cutting of sawlogs and pulpwood in the area but it is no longer a major industry.

Most active during the hardwood-hemlock era was the Sawyer Goodman Company of Marinette, Wisconsin and the Von Platten-Fox Lumber Company of Iron Mountain, Michigan and also the Porterfield and Ellis Company. North of Rockland the McMillan Company and James Hilger were active loggers. Other jobbers worked for the bigger logging companies including the Stebbins Brothers and Joe Dehut. The famous railroad logging grade known as Joe Dehut's Loop, which was located on a steep hill and valley east of the Ontonagon River, required the greatest of skill and even luck to negotiate without rolling the cars over. Several million board feet of logs were hauled over this famous loop.

Most of the hardwood timber cut during this period was shipped by rail either into Iron Mountain, or Marinette, Wisconsin. Arthur Holmes operated the railroad station known as Fox (named after M. J. Fox of the Von Platten-Fox Lumber Company) from 1925 to 1932. This was during the heyday of the hardwood-hemlock era when millions of board feet of sawlogs were cut and shipped to the sawmills. There were

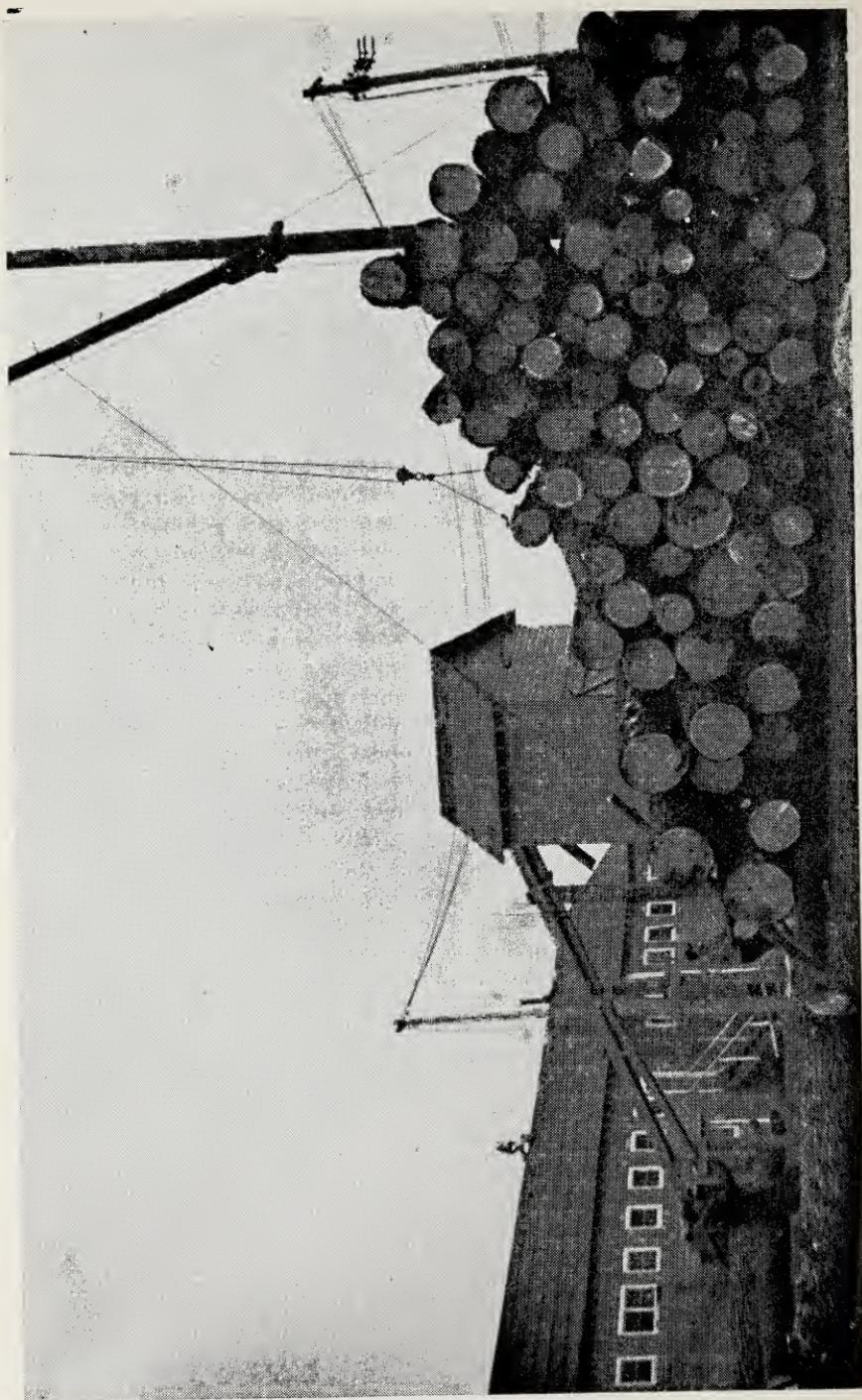


McArthur logging camp north of Greenland in 1927.

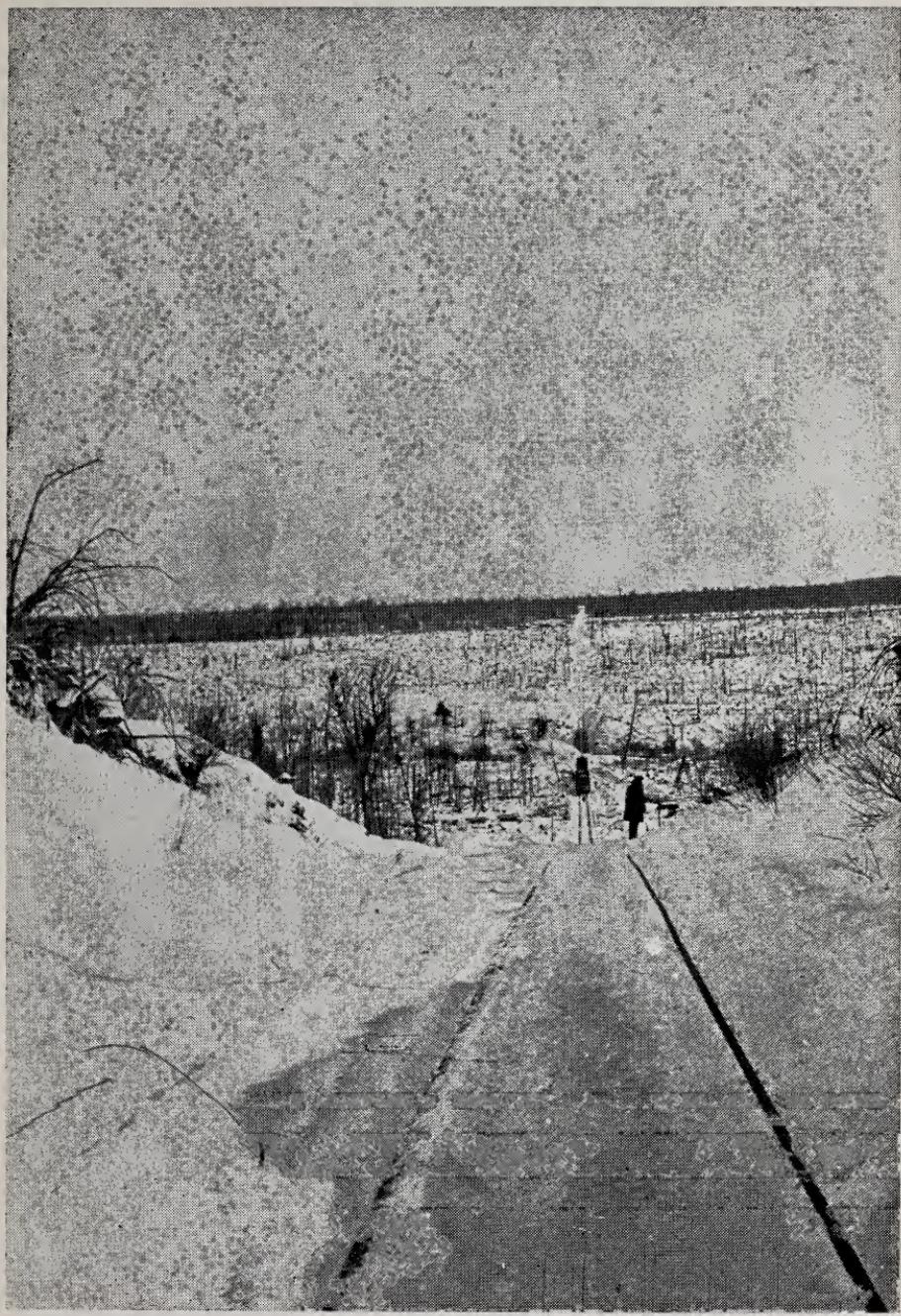
Logging for the Sawyer Goodman Lumber Company.



Sleigh haul to railroad log landing near Mass in 1926. Henry Hermansen and logging crew.



Decking logs at VonPlatten-Fox sawmill near Mass.



Joe Dehut's logging loop east of Ontonagon River in 1921. Railroad used in logging operation of Porterfield and Ellis Company.

several other shipping points along the railroad, names now all but forgotten: Riddle Junction, McKeever, Wainola, and Wasas.

A history of Rockland, Greenland and Bohemia Townships would not be complete without mentioning the agricultural attempts here. Very early, of necessity, the mining companies cleared land to grow crops near their locations. First crops consisted largely of potatoes, turnips and hay. Joseph Bebeau in his reminiscences written for the Rockland Centennial of 1947 tells of some of the early farms, including the Arenz, Jeffs and Penegor farm. However, he reports that only four farmers made a living from the land, Pat Walsh near the Artic Mine, the Miswald farm three miles north of Rockland, the Tomma farm (Thomas Emmond) north of Rockland and the William Davey farm near the edge of town.

Following these first few farming attempts and after some of the area had been logged, many farmers of Finnish extraction settled on the cheap cut-over lands between Rockland and Ontonagon. Most of the acreage was managed as dairy farms with some hay and oats produced. The north portion of Greenland Township did not lend itself to farming and very little is being done there even today. This was not true with the southern part of the township where much of the land is in agriculture, ownership being predominately Finnish. Bohemia Township has a very small portion of marginal farm land in the extreme northeast corner where there are a few established farms. There is no permanent town in this township. Very early an attempt was made for a village at the mouth of the Misery River, the location was known as Franklin.

Part of Greenland and Bohemia Townships are now included within the boundaries of the Ottawa National Forest and also the Mishwabic State Forest. Under federal and state management this portion will be used to produce future timber products and for public recreation. The U. S. Forest Service has a developed camp ground and picnic area on Courtney Lake that gets heavy use. The Upper Peninsula Power Company has allowed fishing and boating on their impoundment at Victoria Dam on the Ontonagon River. The local ski club has developed a ski hill near Mass City.

The mining and lumbering of this area today plays a very small part in the economy of the region. What of it's future? Does mining have a future? Logging? Agriculture? Recreation?

One thing is certain, the communities started by the mining companies are still there. Who can predict the future of mining? There has been enough work done for over a century to know that valuable minerals are still there. There will always be limited logging and agriculture. Possible future encouragement for the economy of the area could come from the construction of the planned harbor for small craft at the mouth of the Misery River. With the introduction of salmon in the Ontonagon River the recreational use along this river could greatly increase.

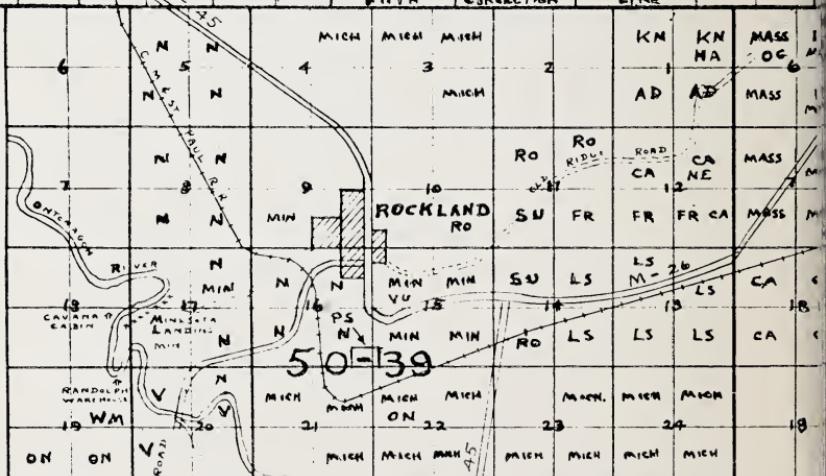
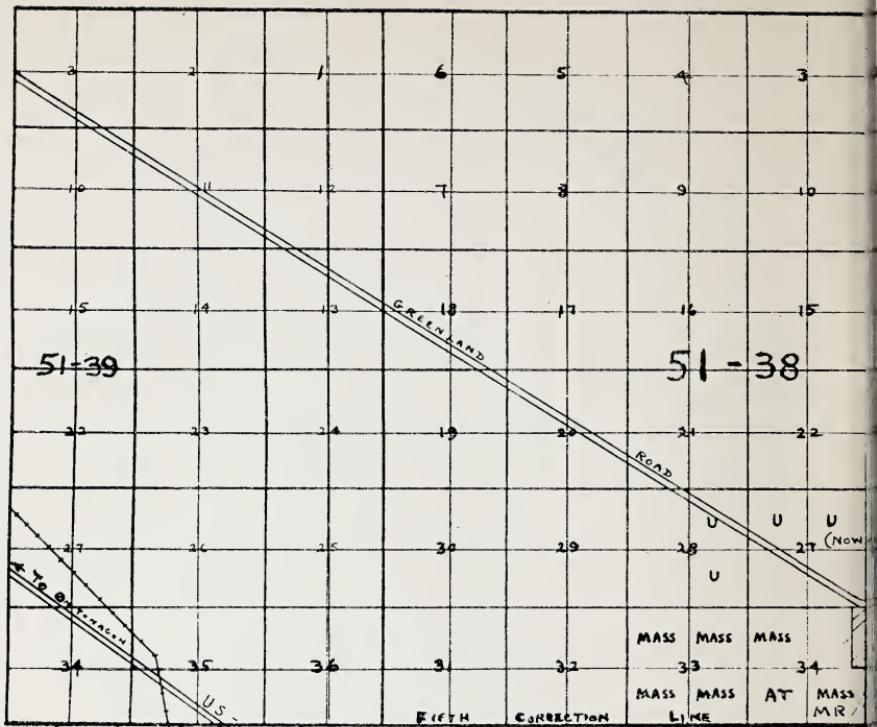
Certainly this part of Ontonagon County will not remain stagnant: there are too many opportunities for future growth. True, the communities have had their ups and downs since the time of the first copper discovery on the Rockland-Greenland hills but those same hills still retain a potential for the future.

**Name and Location of Mining Companies in  
Rockland - Greenland - Mass Mining Area  
Ontonagon County, Michigan**

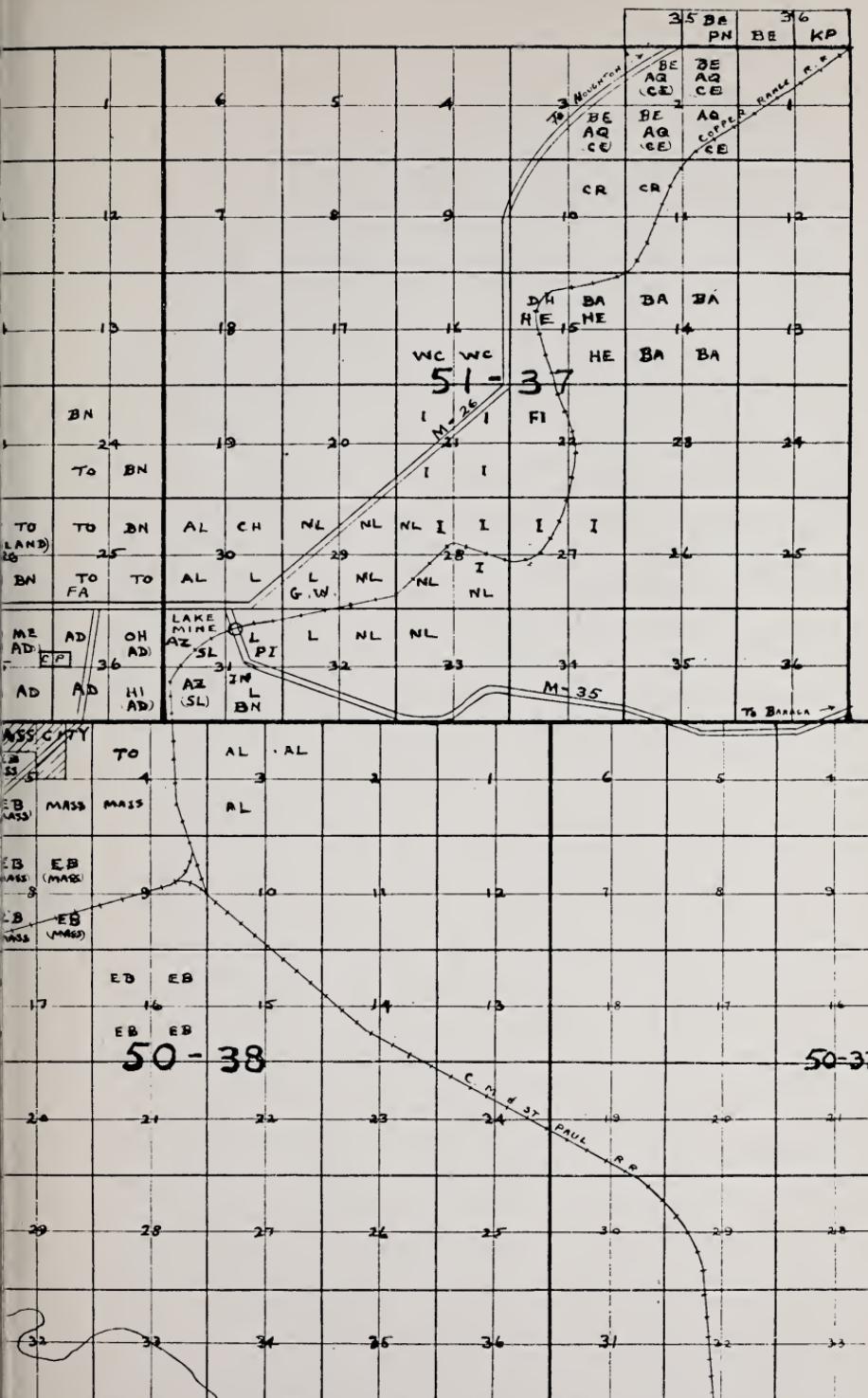
| Name                        | Symbol<br>On Map | Yr. Started | Closed | Total Production<br>T'sns Refin'd Cop'r Sec. | Location<br>Town | Range   |
|-----------------------------|------------------|-------------|--------|--|------------------|---------|
| Adventure                   | AV               | 1850        | 1917   | 5,391  | 36               | 51N 37W |
| Algonquin (later Penn)      | AQ               | 1848        | 1858   | 0  | 2                | 51N 37W |
| Algoma                      | AL               | 1852        | 1920   | 6  | 30               | 51N 37W |
| Atlantic No. 1              | AT               | 1852        | 1859   | 0  | 34               | 51N 38W |
| Artic (later Victoria)      | AR               | 1850        | 1858   | 0  | 29               | 50N 39W |
| Aztec (later S. Lake)       | AZ               | 1850        | 1882   | 343  | 31               | 51N 37W |
| Bohemia                     | BA               | 1910        | 1913   | 0  | 14               | 51N 37W |
| Bohemian No. 2 (later Lake) | BN               | 1848        | 1882   | 175  | 31               | 51N 37W |
| Belt (later Lake)           | BE               | 1882        | 1905   | 334  | 2                | 51N 37W |
| Caledonia                   | CA               | 1863        | 1871   | 238  | 12               | 50N 39W |
| Cherokee (later Belt)       | CE               | 1852        | 1905   | 0  | 2                | 51N 37W |
| Chesapeake                  | CP               | 1850        | 1854   | 0  | 35               | 51N 38W |
| Chippewa                    | CH               | 1853        | 1863   | 0  | 30               | 51N 37W |
| Coulter                     | CR               | 1863        | 1871   | 0  | 10               | 51N 37W |
| Cortez                      | CZ               | 1852        | 1856   | 0  | 30               | 50N 39W |
| Cushin (later Forest)       | CU               | 1849        | 1852   | 0  | 36               | 50N 40W |
| Douglass Houghton No. 2     | DH               | 1848        | 1857   | 71   | 15               | 51N 37W |
| Diana                       | DI               | 1895        | 1897   | 0  | 2                | 51N 37W |
| Devon                       | DE               | 1852        | 1855   | 0  | 36               | 50N 40W |
| Evergreen Bluff             | EB               | 1853        | 1890   | 1,457  | 6                | 50N 38W |
| Farm (later Toltec)         | FA               | 1852        | 1855   | 0  | 25               | 51N 38W |
| Firesteel                   | FI               | 1852        | 1855   | 0  | 22               | 51N 37W |
| Flintsteel River            | FR               | 1853        | 1881   | 434  | 12               | 50N 39W |
| Forest                      | FO               | 1850        | 1855   | 156  | 25               | 50N 40W |
| Glen (later Victoria)       | GL               | 1852        | 1855   | 0  | 31               | 50N 39W |
| Great Western (later Belt)  | GW               | 1863        | 1882   | 0  | 29               | 51N 37W |
| Hazard (later Mass)         | HA               | 1860        | 1899   | 0  | 1                | 50N 39W |
| Henwood                     | HE               | 1864        | 1875   | 0  | 15               | 51N 37W |
| Hilton                      | HI               | 1864        | 1890   | 62   | 36               | 51N 38W |
| International               | IN               | 1850        | 1853   | 0  | 31               | 51N 37W |
| Indiana                     | I                | 1862        | 1914   | 0  | 21               | 51N 37W |
| King Philip                 | KP               | 1900        | 1910   | 0  | 36               | 52N 37W |
| Knowlton                    | KN               | 1864        | 1891   | 496  | 1                | 50N 39W |
| Lake Superior No. 2         | LS               | 1848        | 1878   | 7  | 13               | 50N 39W |
| Lake                        | L                | 1905        | 1919   | 3,663  | 31               | 51N 37W |
| Mass                        | MASS             | 1856        | 1920   | 25,308                                       | 6                | 50N 38W |
| Merrimac (later Mass)       | MR               | 1863        | 1899   | 0  | 34               | 51N 38W |
| Merchants (later AV.)       | ME               | 1856        | 1858   | 0  | 35               | 51N 39W |
| Michigan                    | MICH             | 1899        | 1921   | 10,623                                       | 22               | 50N 39W |
| Minesota                    | MIN.             | 1849        | 1885   | 17,352                                       | 15               | 50N 39W |
| National                    | N                | 1843        | 1893   | 5,541  | 16               | 50N 39W |
| Nebraska (later CA.)        | NE               | 1854        | 1863   | 0  | 12               | 50N 39W |
| North Lake                  | NL               | 1908        | 1917   | 0  | 32               | 51N 37W |
| Ohio (later Hilton)         | OH               | 1860        | 1864   | 0  | 36               | 51N 38W |
| Oneida (later Victoria)     | OD               | 1854        | 1858   | 0  | 19               | 50N 39W |
| Ontonagon                   | ON               | 1848        | 1850   | 0  | 22               | 50N 39W |
| Ogima (later Mass)          | OG               | 1857        | 1887   | 569  | 6                | 50N 38W |
| Peninsula                   | PS               | 1850        | 1854   | 2  | 16               | 50N 39W |
| Penn (later Belt)           | PN               | 1860        | 1882   | 0  | 35               | 52N 37W |
| Piscataqua (later BN.)      | PI               | 1848        | 1853   | 43   | 31               | 51N 37W |
| Ridge (later Mass)          | RI               | 1850        | 1893   | 2,721  | 35               | 51N 38W |
| Rockland                    | RO               | 1853        | 1880   | 2,910  | 11               | 50N 39W |
| South Lake                  | SL               | 1909        | 1918   | 521  | 31               | 51N 37W |
| Sylvan (later Victoria)     | SY               | 1855        | 1858   | 0  | 31               | 50N 39W |
| Shirley (later Victoria)    | SH               | 1852        | 1855   | 0  | 36               | 50N 40W |
| Superior                    | SU               | 1855        | 1879   | 263  | 11               | 50N 39W |
| Toltec                      | TO               | 1849        | 1866   | 190  | 25               | 51N 38W |
| Tremont                     | TR               | 1852        | 1855   | 0  | 35               | 50N 40W |
| Union                       | UN               | 1863        | 1890   | 0  | 27               | 51N 38W |
| Victoria                    | V                | 1858        | 1922   | 9,846  | 30               | 50N 39W |
| Vulcan No. 2 (later MN.)    | VU               | 1848        | 1850   | 0  | 15               | 50N 39W |
| West Minesota               | WM               | 1854        | 1856   | 0  | 19               | 50N 39W |
| What Cheer                  | WC               | 1854        | 1860   | 0  | 16               | 51N 37W |

TOTAL COMPANIES — 63

Total Production 88,722 Tons



Map showing Greenland-Mass and Rockland mining area. This map shows location of all organized mining companies from 1848 to 1922.













MINNESOTA MINE



